GISette
Email Newsletter

February 2006

Welcome to the eighteenth edition of the **MassGIS GISette**, a bi-monthly newsletter e-mailed to over 1000 of our users and partner agencies to keep them informed of data updates, GIS events, and on-going technology developments. This newsletter will not replace more focused e-mails that many of you currently receive. A page on our website has been created for the GISette. There you will find back issues of the GISette and an online subscription form.

While our primary intent in publishing the GISette is to disseminate information related to MassGIS initiatives and data development in particular, we also see the GISette as a means of communicating public agency GIS news. So we encourage readers to send in updates or announcements concerning public agencies that they would like included in the GISette. We particularly want to encourage submission of announcements concerning data development projects. Announcements should be sent to Paul Nutting at paul.nutting@state.ma.us.

Massachusetts Geographic Information Council (MGIC) Meeting Recap

More than 40 people attended the February 22nd meeting of the Massachusetts Geographic Information Council (MGIC) to hear several presentations about the *Challenges of Mapping in the Marine Environment.*

Two speakers focused on technical tidal datums and boundary issues related to marine mapping and two spoke about actual mapping projects they are doing along the Massachusetts coast.

Peter McManus, head of the Survey Division at the Massachusetts Highway Department, spoke about technical aspects of determining the coastal territorial boundary of the Commonwealth. Curtis Crow, NOAA's Geodetic Advisor to Massachusetts and New Hampshire, spoke about vertical datums and their relationship to tidal datums.

From the Massachusetts Office of Coastal Zone Management, both Seth Ackerman and Joseph Costa discussed recent and current mapping projects. Seth is working with the USGS to complete seafloor mapping in Massachusetts Bay and discussed the multi-instrument data collection process. Joe Costa explained how in a variety of ways, GIS was valuable to the April 2003 Bouchard oil spill cleanup. Determining what areas had been already affected, what areas could become affected, and conveying map based cleanup information were all timely uses of a GIS in this situation, and the effort is continuing with long-term assessment. Thank you to all of the speakers and attendees for making this an informative and successful presentation. All PowerPoints will be posted here soon. Please watch the website for an announcement regarding a spring MGIC session or sign up for notification.

2005 Ortho Imagery Project Status

Many of you have been eagerly waiting for the new 2005 color ortho image basemap to become available. MassGIS is pleased to announce that we are starting to make these new images available as we complete QA for each delivery area. There are approximately 1500 tiles in the image index. These are divided into 10 delivery areas that are being delivered from east to west. The delivery area map includes an estimated schedule of availability for each delivery area. Distribution priority is first to those doing parcel mapping in Plymouth and Bristol Counties under the current round of parcel grant funding and second to regional planning and state agencies. Depending on the size of total files being distributed to any one organization, delivery can be via CD-ROM, DVD, or a portable hard drive.

This imagery will be made available in different formats. In order of availability, we currently think these formats will be: GeoTIFFs of individual tiles (~250Mb each); individual tiles in JPEG 2000 format, both lossy (currently estimated to be 10Mb per tile) or lossless (~125Mb per tile) forms; JPEG 2000 regional mosaics (between 15 and 20 mosaics covering entire state); and a statewide JPEG 2000 lossy version small enough to fit on one CD-ROM. Note that the GeoTIFFs are much larger than the comparable 2001 images because they include the infrared reflectance band. MassGIS will be trying to distribute this imagery as quickly as possible. Please be patient.

Once the entire project is delivered, new elevation data will be available as TIN files and as coordinates of mass points and breaklines in ASCII format. Finally, an interpretation of impervious surface for the entire state will be available as individual one meter resolution raster images indexed by the ortho image tiles.

MassGIS Releases Standard for Digital Plan Submittal to Municipalities

In February, culminating an almost two year effort, MassGIS released this new standard. The motivation behind developing this standard is that most plans submitted for municipal review are now created using CADD software. Municipal staff is aware of this and have increasingly implemented requirements that a copy of the source CADD file be submitted as part of the development review process; they are doing this because they see an opportunity for simplifying the process of updating their GIS databases. However, this proliferation of requirements and related standards at the municipal level is adding to the complexity and cost of the municipal development review process.

If implemented by a municipality through an approved ordinance, the standard implements a requirement for developers to submit something called a "Standard Digital File". This file would contain an extract of features from the CADD file used to create the development plans; the Mylar or paper plan would still remain the official document. The specifications in this standard cover layer name and content, file format, coordinates and geodetic datum, georeferencing, and accompanying documentation. In addition, there is a discussion of copyright issues as it pertains to submitted plans. The standard makes provisions for implementing different "levels" of requirements depending on the complexity of the project being submitted for review.

The standard went through two drafts. These drafts were developed with assistance and input from individuals representing various stakeholder groups: surveyors and engineers (through the Massachusetts Association of Land Surveyors and Civil Engineers), municipal GIS staff, regional planning agency GIS staff, and GIS consultants. A copy of the standard and its accompanying documents can be found on the MassGIS website.

Database Updates

- **DEP Eelgrass Layer Updated** - 2/22/2006
  MassDEP GIS Group has updated the Eelgrass layer to include new mapped data from 2001. See the Datalayer Description for details and a link to free data download.

- **Soils Layers Updated** - 2/17/2006
  SSURGO-Certified soils data (polygons and arc and point spot features) are now available for the Middlesex survey area. View the current status map and download the data.

- **Update to Open Space** - 2/8/2006
  The MassGIS Protected and Recreational OpenSpace Datalayer has been updated and a new shapefile and personal geodatabase have been placed on our ftp site. Updates include thousands of new features, all APRs from 1999 to 2005, and DCR and DFG fiscal '05 acquisitions. See details on the Open Space Datalayer Description page.

- **New Quabbin Reservoir Bathymetry Layer** - 1/19/2006
  This dataset represents bathymetry of the Quabbin Reservoir at 10-foot intervals. Both contour lines and polygon features are available and were developed by the Massachusetts Dept. of Conservation & Recreation, Division of Water Supply Protection, Office of Watershed Management.

- **New Public Utility Service Providers Layer** - 1/13/2006
  This data table, which may be joined to community boundary polygon layers, contains the public Electric, Gas, and Cable utility providers for each Massachusetts municipality.

- **MBTA Rapid Transit Layer Updated** - 1/10/2006
  The MBTA Rapid Transit layer now includes the Silver Line Waterfont branch as well as enhanced linework and points for the entire dataset.

- **Updates to DEP Public Water Supply Layers** - 12/22/05
  The MassDEP GIS Group has updated the following layers:
  - Public Water Supplies
  - Zone IIs, IWPA (Updated on 10/11/05 for error fixes)
  - Surface Water Protection Areas (Zone A, B, C)

Online Mapping

Performance Upgrades

MassGIS has deployed a new database server with faster CPU and more memory, called Alexandria. Oracle and SDE now run off this server. As a result, all online mapping is now much faster (as a very unofficial estimate, perhaps 30-40% faster). MassGIS plans further external server upgrades that will also boost performance of online maps, keep an eye on this space for more updates.

2005 Web-Mapping Statistics

As you can see by the statistics below, MassGIS' online mapping applications are becoming very popular. MassGIS has made a great investment in OLIVER and on an ongoing basis intends to add new features, functionality and data.

Images served from ArcIMS:
ArcIMS served ***almost 5 million images*** in 2005: 4,931,807 - this is 1,075,393 more than in 2004 or ***a 28% increase***
Average images per day: 13,512 (versus 10,537 in 2004)
Average maps per hour: 563 (versus 439 in 2004)
Average maps per minute: 9.4 (versus 7.3 in 2004)
one map every 6.4 seconds (versus one every 8.2 seconds in 2004)

Webservices Requests
(webservices requests may be for a map (which is also counted above), or an identify, an address geocode, or an extract)

Total requests for the 2005: 1,581,924 (last year I had only a partial count)
Average requests per day: 4,334 (versus a average of 2,389 for last 5 months of 2004)

OLIVER Launches:
Total launches for 2005: 42,859 (last year I had only a partial count)
Average launches per day: 117.4 (versus 71 for 2004 (partial year of data))

GB served from maps machine (maps, HTML, XML, .zip):
Average GB served per month: 92.5 GB (versus 67.6 in 2004)
Average GB served per day: 3 GB (versus 2.2 in 2004)

Open Space Corner

Greetings again Open Space Users!

If you've missed the old OpenSpace Corner, my absence was due to my frantic efforts to update OpenSpace. In the last several months, we have added almost 40,000 acres of OpenSpace to the database. The majority of this land is from making sure that the land protection efforts of EOEA in the past seven years were up-to-date in OpenSpace. This effort includes updates to DCR State Parks, DCR Urban Parks, DCR Water Supply, DFG, DAR APRs and various DCS programs such as Self-Help and Conservation Partnership Grants, as well as major updates to several towns. Total OpenSpace has increased by

39,422.69 acres composed of 1,738 polygons. Protected OpenSpace has increased by 42,377.86 acres composed of 1,732 polygons. Updates were made to Chapter 61 lands as well (All 61s in the City of Westfield were completely redone). This completes the GIS aspect of most all EOEA projects from FY1999 through FY2005.

The new downloads, in SHP or PGDB format, can be found at the OpenSpace homepage.

Now that this large backlog of state lands has been completed, efforts are underway to further streamline the process of adding *new* OpenSpace data. Updates currently in progress have been received from various RPAs and Commissions, Towns (including updates from Community Preservation and Commonwealth Capital applications), Non-Profits (statewide and local), Federal and State agencies and Conservation Restrictions filed through DCS. Where MassGIS Parcel Standard Level II assessors parcel data is available, I am also trying to update Chapter 61 lands.

We are currently testing a way to work with real-time GIS OpenSpace data for grant program project review within one EOEA agency; upon acceptance of an application, the parcel in question would be immediately digitized. This will allow the pertinent staff to examine the proposed land parcel in proper spatial context using OLIVER. This will speed both the review process and the updating of OpenSpace, as the spatial component will already be complete (excepting last minute revisions).

The Statewide Land Conservation Plan (SLCP) has also been revised to reflect the new OpenSpace data. The total of unprotected lands that are considered of environmental significance has been reduced to just over 1.3 million acres. Much of this loss of unprotected lands has been due to the lands being protected, but some was also lost to development. Look for the revised SLCP dataset to be available online soon.

Did you see something in our Open Space data that isn't quite right? Let me know so I can fix it! If you need help in submitting a revision and/or addition, I'll aid you any way I can.

Enjoy the cold weather while you can!
Scott Costello, MassGIS Open Space Coordinator, scott.costello@state.ma.us, 617-626-1076.

Events, Job Postings, Staff Changes

Massachusetts Association of Conservation Commissions Annual Conference March 4, 2006, Holy Cross College Worcester. MassGIS will be in the exhibit hall to answer questions about data and services provided for ConComs.

Seafloor Mapping Workshop CZM/USGS March 23, 2006, Moakley Courthouse, Boston To attend this workshop, please contact CZM's Tony Wilbur.

Northeast ARC Users Group Spring Meeting April 12, 2006 Smith College Northampton, MA

New England GIS Conference May 9 & 10, 2006 Sheraton Ferncroft, Danvers NEGIS is the largest gathering of GIS professionals in New England with over 40 exhibitors.

The Massachusetts Department of Agricultural Resources is seeking a GIS Technician to work on a limited contract basis. The deadline for application is March 7, 2006.

MassGIS is pleased to welcome Bill Mahoney as our Systems Administrator. Bill comes to us from UMass Boston where he held a similar position within the Earth and Geographic Sciences Department. He holds several degrees from UMass Boston in English, Math and Computer Science. While most of you will never interact with Bill, he is a vital member of our team; welcome Bill. Thanks to Saul Farber for filling in while the search for Bill was underway.

Any comments or suggestions about the GISette are welcomed; email paul.nutting@state.ma.us.

MassGIS-The Commonwealth's Office of Geographic and Environmental Information is located within the Executive Office of Environmental Affairs and is charged with the collection, enhancement, storage and dissemination of the Commonwealth's geographic data.

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